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RESEARCH ARTICLE

The impact of co-morbidity burden on appropriate implantable cardioverter defibrillator therapy and all-cause mortality: insight from Danish nationwide clinical registers

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Aims In a nationwide cohort of primary (PP-ICD) and secondary prevention (SP-ICD) implantable cardioverter defibrillator (ICD) patients, we aimed to investigate the association between co-morbidity burden and risk of appropriate ICD therapy and mortality.

Methods and results We identified all patients >18 years, implanted with first-time PP-ICD ($n = 1873$) or SP-ICD ($n = 2461$) in Denmark from 2007 to 2012. Co-morbidity was identified in administrative registers of hospitalization and drug prescription from pharmacies. Co-morbidity burden was defined as the number of pre-existing non-ICD indication-related co-morbidities including atrial fibrillation, diabetes, chronic obstructive pulmonary disease, chronic renal disease, liver disease, cancer, chronic psychiatric disease, and peripheral and/or cerebrovascular disease, and divided into four groups (co-morbidity burden 0, 1, 2, and ≥3). Through Cox models, we assessed the impact of co-morbidity burden on appropriate ICD therapy and mortality. Increasing co-morbidity burden was not associated with increased risk of appropriate therapy, irrespective of implant indication [all hazard ratios (HRs) 1.0–1.4, P = NS]. Using no co-morbidities as reference, increasing co-morbidity burden was associated with increased mortality risk in PP-ICD patients (co-morbidity burden 1, HR 2.1; comorbidity burden 2, HR 3.7; co-morbidity burden ≥3, HR 6.6) (all $P < 0.001$) and SP-ICD patients (co-morbidity burden 1, HR 2.2; co-morbidity burden 2, HR 3.8; co-morbidity burden ≥3, HR 5.8). With increasing co-morbidity burden, an increasing frequency of patients died without having utilized their device, with 72% PP-ICD and 45% SP-ICD patients with co-morbidity burden ≥3 dying without prior appropriate ICD therapy.

Conclusion Increasing co-morbidity burden was not associated with increased risk of appropriate ICD therapy. With increasing co-morbidity burden, mortality increased, and a higher proportion of patients died, without ever having utilized their device.

Keywords Implantable cardioverter defibrillators • Co-morbidity burden • Mortality • Appropriate ICD therapy • Implantation rate

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Introduction

The survival benefit of implantable cardioverter defibrillator (ICD) implantation in patients who have survived a cardiac arrest or an episode of sustained ventricular tachycardia (VT) was demonstrated in major clinical trials in the late 1990s.[1,2] Since then, the indications for ICD implantation have evolved to include primary prevention of sudden cardiac death (SCD), with large randomized clinical trials showing a significant survival benefit in patients with depressed LV function, without prior resuscitated cardiac arrest or a sustained VT episode.[2–6]

Pharmacological advancements and improved treatment for myocardial infarction and heart failure have resulted in an increasing incidence of patients who fulfil the criteria for primary prevention ICD implantation. Furthermore, the implementation and increasing use of automatic external defibrillators for out-of-hospital cardiac arrest has led to a higher survival rate from SCD, and thus an increasing number of patients who would benefit from a secondary prevention ICD.[7,8]

Even though randomized trials are essential for proof-of-concept and clinical implementation, these trials often have strict inclusion criteria and thus represent a selected patient population that might not be representative for 'real-life' ICD patients. In order to assess the prognosis in ICD patients in the setting of multiple co-morbidities, it is important to look beyond the results from landmark trials, with data from large, prospective, clinical registries.

In a nationwide Danish cohort of consecutively implanted ICD recipients, we aimed to investigate the association between increasing number of non-ICD indication-related co-morbidities and the risk of appropriate ICD therapy and all-cause mortality in primary and secondary prevention ICD patients, respectively.

Methods

Registries

Demographic information on date of birth, gender and date of death is registered in the Danish Civil Person Register.[9–11]

The Danish Pacemaker and ICD Register (DPIR)

This registry contains prospectively collected data on all pacemaker and ICD implantations performed in Denmark, with information on implant indication, symptomology, and device and lead type at the time of device implantation.[12,13] Since 1 January 2007, information on NYHA class and LVEF has been documented at the time of implantation, and follow-up data on ICD therapy have been prospectively recorded.[13]

The Danish National Patient Register

This contains data on all outpatient visits, hospital admissions, and operative procedures in Denmark since 1978.[14] Each patient contact is coded with one primary and up to several secondary diagnoses according to ICD-8 (International Classification of Diseases, 8th revision) until 1993 and ICD-10 (10th revision) from 1994 onwards. These admission codes are used to reimburse the hospitals for expenses associated with hospital contacts and procedures performed. As a result, the accuracy of the registry is high.

The Danish Register for Medicinal Products Statistics

This contains individual-level information on all redeemed prescriptions from Danish pharmacies from 1995, with information on type and name of the drug, according to the Anatomical Therapeutic Chemical (ATC) classification, as well as the date, dose, and quantity dispensed.[15]

All Danish residents are assigned an individual and permanent civil person registration number at birth or when moving to the country,[9,10] enabling cross-linkage of data from the above-mentioned registries.

Study population

We performed a population-based cohort study including all Danish patients with a first-time ICD implantation with a primary or secondary prevention indication in the period 1 January 2007 to 31 December 2012 ($n = 4547$). Patients with a CRT-D were not included. Exclusion criteria included, missing indication for implant ($n = 114$), age <18 years ($n = 40$), a non-valid date of birth ($n = 43$), and emigration prior to implantation ($n = 16$), leaving us with 4334 patients. Follow-up was conducted from time of device implantation until 31 December 2012.

Patient characteristics, pharmacotherapy, and co-morbidities

Pharmacotherapy at implant was defined as a redeemed prescription within 180 days prior to implant or 7 days after implant.

Co-morbidities prior to device implantation were determined using diagnoses and procedural codes from The Danish National Patient Register, as well as ATC codes for redeemed prescriptions from the Danish National Register for Medicinal Products Statistics, as described previously[16–22] (Supplementary material online, *Table S1*). For the current study, we investigated the risk of pre-existing non-ICD indication-related co-morbidities and associated outcome. Non-ICD indication-related co-morbidities were defined as atrial fibrillation (AF), diabetes, chronic obstructive pulmonary disease (COPD), chronic renal disease, peripheral vascular disease, cerebrovascular disease, cancer, liver disease, and chronic psychiatric disease. One point was assigned for each pre-existing non-ICD indication-related co-morbidity, creating a cumulated co-morbidity burden. This methodology has been used previously.[23]

Endpoints

Information regarding appropriate ICD therapy was obtained from the DPIR, and defined as anti-tachycardia pacing (ATP) or shock rendered for VT or ventricular fibrillation (VF) as evaluated by the treating physician. Death and time of death were identified through the Danish Civil Person Register.

Ethics

Retrospective register-based studies do not need ethical approval in Denmark. Permission to use data from the Danish Registries was granted by The Danish Data Protection Agency (2007-58-0015, internal reference: GEH-2014-015).

Statistics

Clinical characteristics were compared between secondary and primary prevention ICD patients using the Kruskal–Wallis test

for continuous variables, and χ^2 test or Fisher's exact test for dichotomous variables where appropriate.

Temporal development in co-morbidity burden at implant was tested for significance using the Cochran–Armitage test for trend.

To investigate device utilization, we identified a subset of patients who either had experienced an appropriate ICD therapy (i.e. patients who gained benefit from the device) or died without ever having utilized their device appropriately (i.e. patients who did not gain benefit from the device) and plotted these percentages in a bar chart by co-morbidity burden and implant indication. Patients who were still alive and never had experienced an appropriate ICD therapy were excluded from this analysis.

Absolute risk over time for the endpoints are illustrated by Kaplan–Meier plots for the endpoint of death, with differences between groups calculated by the −2Log likelihood ratio test. For the endpoint of appropriate therapy, cumulative incidence curves were plotted in order to account for competing risk of death. Multivariate Cox proportional hazards models were applied to assess the influence of non-ICD indication-related co-morbidities on death and appropriate therapy, adjusting for age and sex.

Hazard ratios (HRs), their 95% confidence intervals (CIs), and affiliated *P*-value are reported. A two-tailed *P*-value below 0.05 was considered significant.

All statistical analyses were conducted through the secure servers of Statistics Denmark, using SAS 9.4 statistical software (SAS Institute Inc., Cary, NC, USA).

Results

Clinical characteristics of primary and secondary prevention implantable cardioverter defibrillator patients

Patients with an ICD were predominantly male (80%). Primary prevention ICD patients presented with more advanced cardiac disease and received more heart failure medication, as compared with secondary prevention ICD patients. However, no difference was evident in age at implant or co-morbidity burden (*Table 1*). In primary prevention ICD patients, we observed a temporal increase in age at implant (2007, 59.4 ± 13.7 years; 2012, 62.6 ± 12.3 years, $P < 0.009$), as well as in the burden of non-ICD indication-related co-morbidities at implant, with reductions in the percentage of patients without non-ICD indication-related co-morbidities (2007, 49%; 2012, 41%, *P* for trend = 0.028), and an increase in the percentage of patients with ≥2 non-ICD indication-related co-morbidities (2007, 16%; 2012, 25%, *P* for trend = 0.002). Age at implant and co-morbidity burden remained stable over time in secondary prevention ICD patients (*P* for trend = 0.105–0.768).

Table 1 Clinical characteristics at the time of implantation

Clinical characteristics	Primary (*n* = 1873)	Secondary (*n* = 2461)
Age (years)	62.2 ± 12.2	62.3 ± 13.2
Male gender	1514 (81)	1949 (79)
LVEF (%)	29.4 ± 12.4	40.4 ± 14.5*
NYHA class > II	402 (23)	212 (10)*
QRS duration (ms)	103.4 ± 23.7	102.2 ± 28.8*
Indication for implantation		
Primary prevention	1873 (100)	–
Resuscitated cardiac arrest		1097 (45)
Documented spontaneous VT or syncope with inducible VT/VF		1329 (54)
Other/unknown		35(1)
Co-morbidities		
Congestive heart failure	1706 (91)	1483 (60)*
Ischaemic cardiomyopathy	1508 (81)	1743 (71)*
Previous myocardial infarction	1191(64)	1323 (54)*
Previous atrial fibrillation	403 (22)	579 (24)
Diabetes	369 (20)	399 (16)*
Chronic obstructive pulmonary disease	291 (16)	330 (13)*
Cerebrovascular disease	226 (12)	324 (13)
Peripheral vascular disease	157 (8)	203 (8)
Chronic renal disease	65 (4)	67 (3)
Liver disease	8 (0.4)	22 (0.9)
Cancer	76 (4)	134(5)*
Chronic psychiatric disease	32 (2)	47(2)
Non-ICD indication-related co-morbidity burden[a]		
No co-morbidities	812 (43)	1113 (45)
Co-morbidity burden = 1	660 (35)	800 (33)
Co-morbidity burden = 2	272 (15)	384 (16)
Co-morbidity burden ≥3	129 (7)	164 (7)
Baseline pharmacotherapy		
Beta-blocker	1614 (86)	1997 (81)*
ACE inhibitor/ARB	1603 (86)	1682 (68)*
Diuretics	1315 (70)	1256 (51)*
Digoxin	243 (13)	238 (10)*
Amiodarone	111 (6)	420 (17)*

ICD, implantable cardioverter defibrillator; LVEF, left ventricular ejection fraction; NYHA, New York Heart Association; VF, ventricular fibrillation; VT, ventricular tachycardia.

*$P < 0.05$:

[a]Non-ICD indication-related co-morbidity burden: 1 point given for each of the following co-morbidities: atrial fibrillation, diabetes, chronic obstructive pulmonary disease, chronic renal disease, peripheral vascular disease, cerebrovascular disease, cancer, liver disease, and chronic psychiatric disease.

Co-morbidity burden and appropriate implantable cardioverter defibrillator therapy

Over a mean follow-up of 2.52 ± 1.65 years, 1057 (24%) patients experienced appropriate ICD therapy, with 290 (15%) of primary and 767 (31%) of secondary prevention patients ($P < 0.001$), irrespective of co-morbidity burden ($P = 0.478$ for primary and $P = 0.503$ for secondary).

The 4-year cumulative incidence for overall appropriate ICD therapy (ATP or shock) and specifically appropriate shock was 23% and 12%, respectively, for primary prevention patients, and somewhat higher for secondary prevention patients, with 39% and 21%, respectively (*Figure 1A* and *B*). In multivariate Cox regression

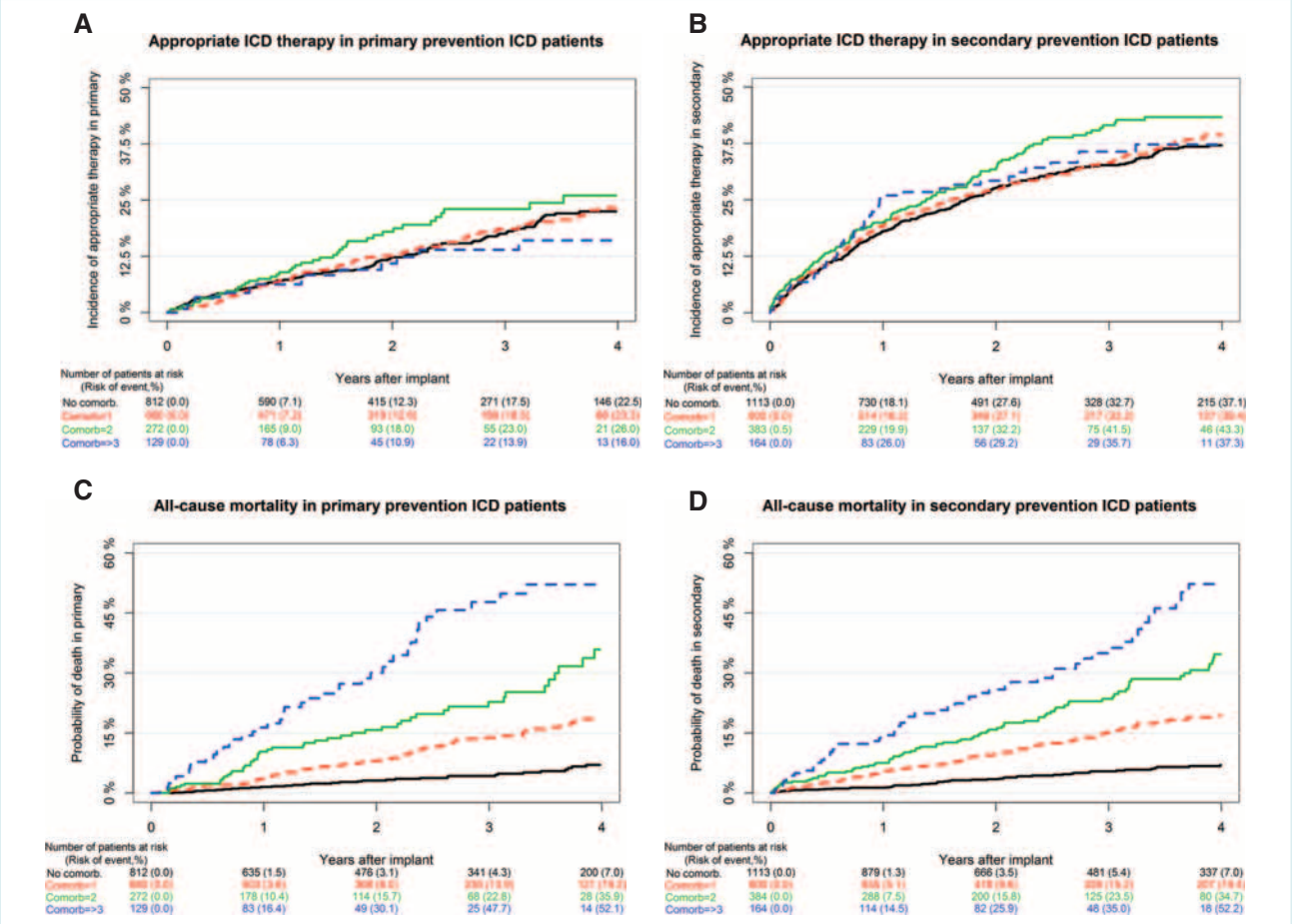

Figure 1 Cumulative incidence of appropriate implantable cardioverter defibrillator (ICD) therapy in primary (*A*) and secondary prevention (*B*) ICD patients by increasing co-morbidity burden. The probability of death by Kaplan–Meier plots in primary (*C*) and secondary (*D*) prevention ICD patients by increasing co-morbidity burden. Co-morbidity burden was calculated for each patient as a score, giving 1 point for each of the following non-ICD indication-related co-morbidities present at the time of implant: atrial fibrillation, diabetes, chronic obstructive pulmonary disease, chronic renal disease, peripheral vascular disease, cerebrovascular disease, cancer, liver disease, and chronic psychiatric disease; no co-morbidities (black), one co-morbidity (red), two co-morbidities (green), and three or more co-morbidities (blue).

analyses, this risk difference translated into an ~2-fold increased risk of appropriate ICD therapy (ATP or shock) in secondary, as compared with primary prevention patients (HR 2.1, 95% CI 1.86–2.44, $P < 0.001$), which was irrespective of co-morbidity burden (P for interaction = 0.653).

Neither primary nor secondary prevention patients with a high co-morbidity burden experienced more appropriate ICD therapy over time, as compared with patients with no co-morbidities (*Figure 1A* and *B*). In multivariate analyses, we found no association between increasing co-morbidity burden and the risk of appropriate therapy, regardless of implant indication (*Figure 2A*).

Analysing the co-morbidities individually, the risk of appropriate ICD therapy in secondary prevention ICD patients was significantly increased in patients who presented with prior AF and/or chronic renal disease (*Figure 3A*). In primary prevention ICD patients, prior AF was the only individual co-morbidity significantly associated with increased risk of appropriate therapy (*Figure 3A*).

All-cause mortality and co-morbidity burden

Increasing co-morbidity burden was associated with increased risk of death, irrespective of implant indication (*Figures 1C* and *D*, and *2B*).

Primary and secondary prevention patients had similar 4-year cumulative risk of death of 7% in patients without any non-ICD indication-related co-morbidities, 19% in patients with one co-morbidity, 35–36% in patients with two co-morbidities, and 52% in patients with three or more co-morbidities (*Figure 1C* and *D*).

In a subgroup analysis, looking at patients who either experienced an appropriate ICD therapy or died, patients with a high co-morbidity burden more often died without ever having utilized their ICD device (*Figure 4*).

Atrial fibrillation, diabetes, COPD, chronic renal disease, and peripheral vascular disease were independently associated with

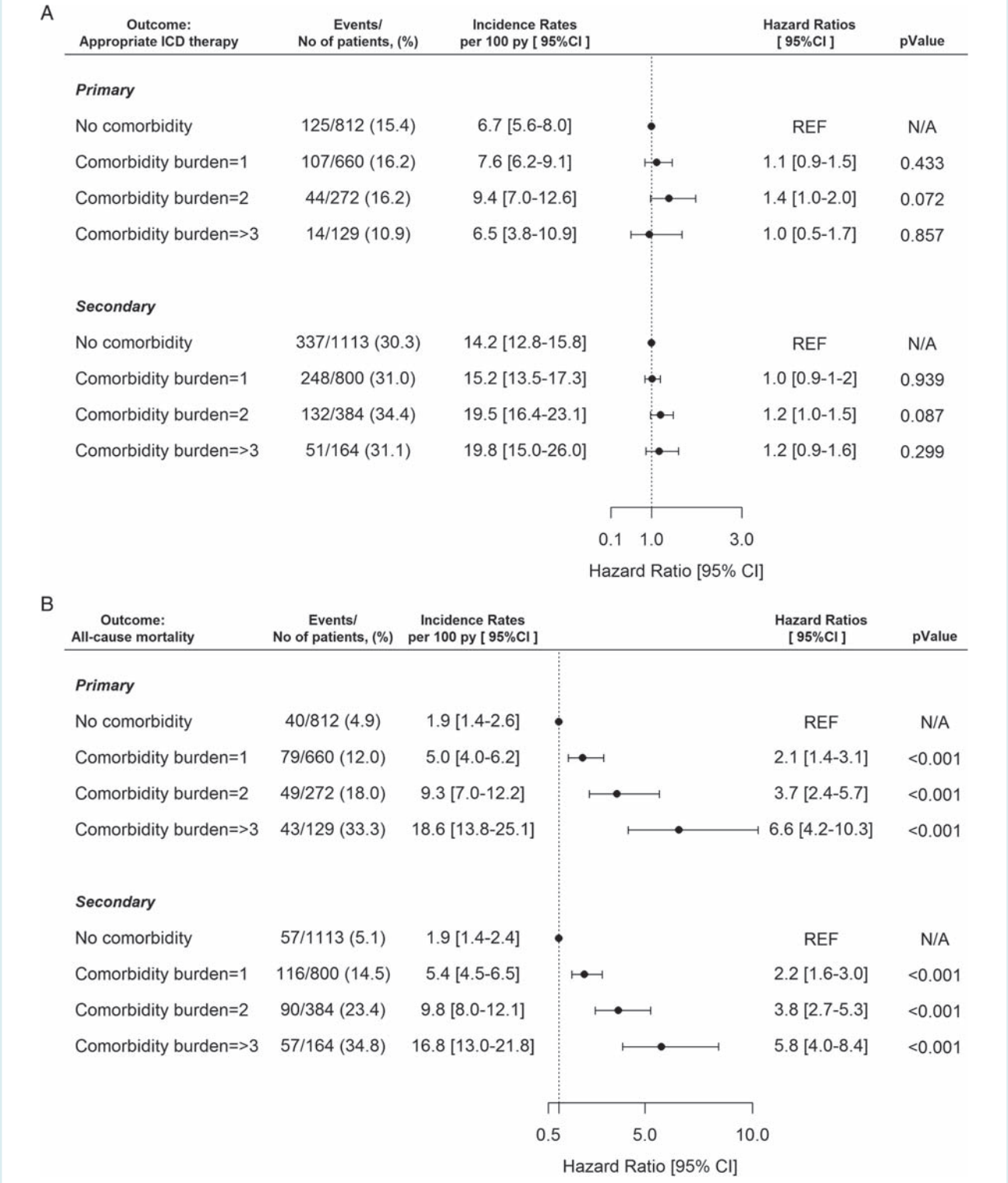

Figure 2 Forest plot depicting the association between increasing co-morbidity burden and the risk of appropriate implantable cardioverter defibrillator (ICD) therapy (*A*) and all-cause mortality (*B*) in patients with the same implant indication, always using patients with no co-morbidities as a reference. Non-ICD indication co-morbidity burden was calculated as a score, giving 1 point for each of the following co-morbidities: atrial fibrillation, diabetes, chronic obstructive pulmonary disease, chronic renal disease, peripheral vascular disease, cerebrovascular disease, cancer, liver disease, and chronic psychiatric disease. Multivariate Cox proportional hazards models were used to assess the risk of the endpoints by increasing non-ICD indication-related co-morbidity burden, adjusting for age and gender. CI, confidence interval; N/A, not applicable.

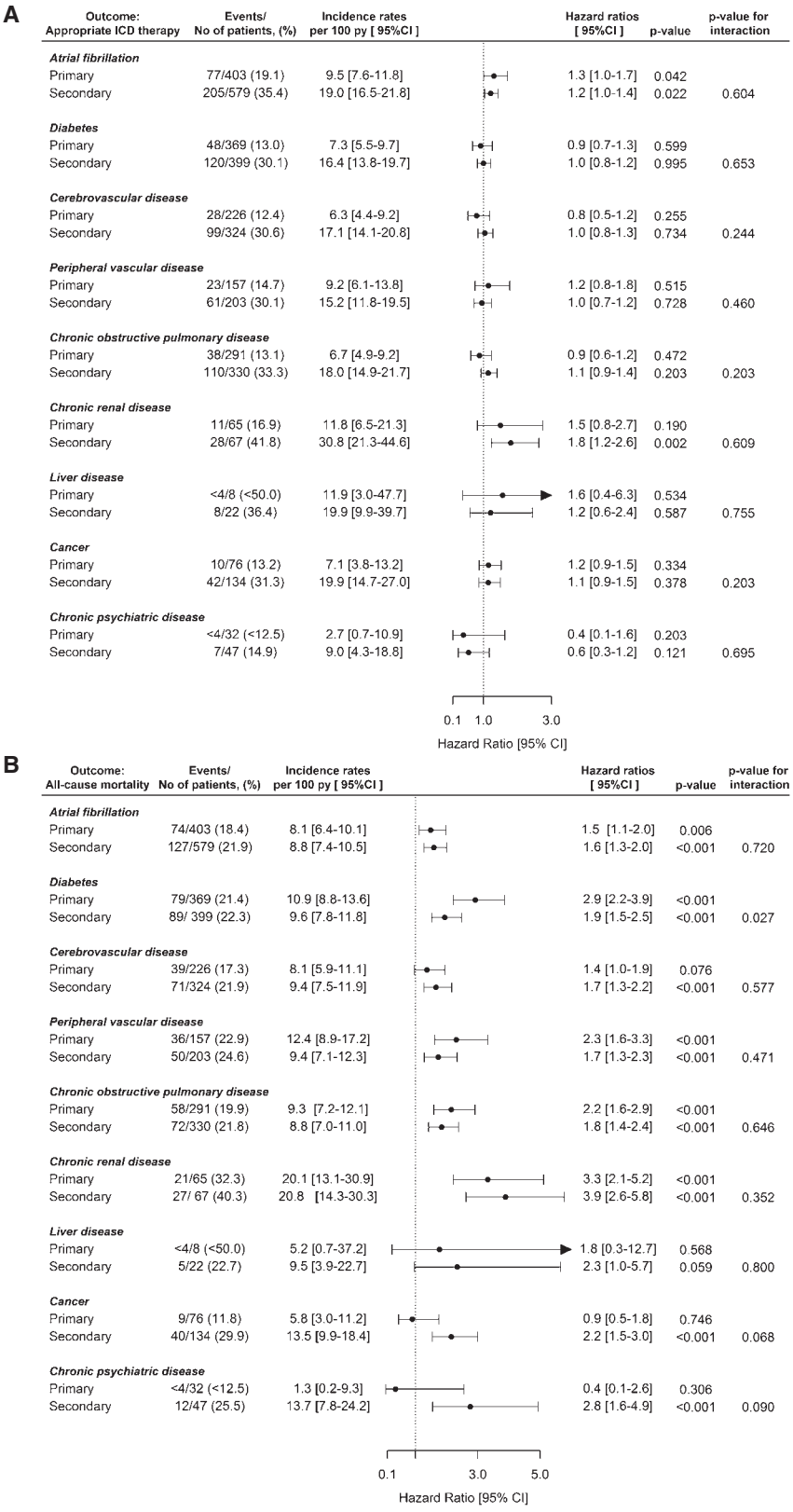

Figure 3 Forest plot depicting the risk of appropriate implantable cardioverter defibrillator (ICD) therapy (*A*) and all-cause mortality (*B*) in the presence of different non-ICD indication-related co-morbidities. Individual multivariate Cox models were fitted for each co-morbid condition and adjusted for age and gender. Not having the specific co-morbidity was used as a reference. CI, confidence interval; py, patient years.

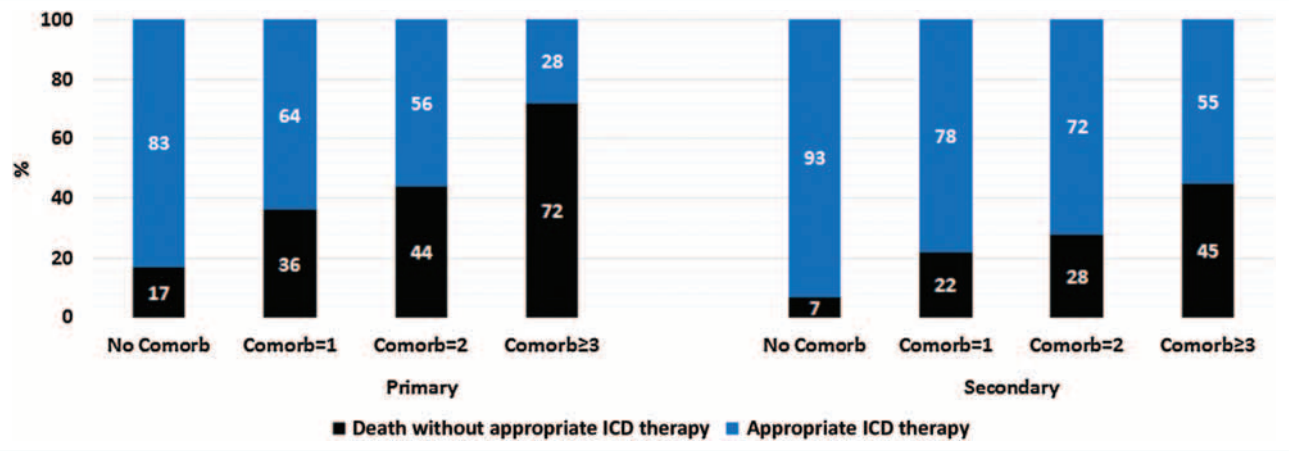

Figure 4 Device utilization. Percentage distribution of patients who either experienced appropriate implantable cardioverter defibrillator (ICD) therapy (blue) or died without ever experiencing appropriate ICD therapy (black) by increasing co-morbidity burden and implant indication.

increased risk of death in both primary and secondary prevention ICD patients (*Figure 3B*). Cancer, cerebrovascular disease, and chronic psychiatric disease were only found to be significantly associated with increased risk of death in secondary prevention patients (*Figure 3B*).

Discussion

In a Danish nationwide study of 4334 ICD patients, consecutively implanted between 2007 and 2012, we found a temporal increase in age at implant and in frequency of non-ICD indication-related co-morbid conditions in patients selected for primary prevention ICD implantation, while this was not the case for patients receiving an ICD for secondary prevention. Increasing co-morbidity burden was not associated with increased risk of appropriate ICD therapy. However, with increasing co-morbidity burden, mortality increased, and a higher proportion of patients died without ever having utilized their device.

The implantation rate of ICD devices has increased worldwide, and, in recent years, Denmark has had one of the highest annual implantation rates among the European countries, reaching 231 implantations per 1 million inhabitants in 2013.[24,25] In a recent study from Denmark, Schmidt *et al.* reported a five-fold increase in implantations from 2000 to 2012, with a particular increase in the elderly and in patients with a high co-morbidity burden.[25] These patients were not well represented in the randomized trials that provide the foundation for current ICD implantation guidelines. Therefore, it is important to obtain further knowledge regarding the prognosis in these patients, and investigate whether they will derive benefit from ICD implantation, in particular for primary prevention implantation.

In the current study, we observed an association between increasing co-morbidity burden and increasing mortality risk, with a >50% mortality risk at 4 years in patients with co-morbidity burden ≥3. Similar results were found in other studies.[25–27] Recently, Schmidt *et al.* found a five-fold relative risk increase in mortality from low to high co-morbidity burden, which is consistent with our data.[25] However, in reporting co-morbidity burden, Schmidt *et al.* found that 42% of primary and 29% of secondary prevention patients had a high burden of co-morbidities, while we only report 7%. The explanation for this discrepancy is in the definition of co-morbidity burden. Schmidt *et al.* used Charlson's co-morbidity index, which includes ICD indication-related co-morbidities, such as myocardial infarction and congestive heart failure, while we only included non-ICD indication-related co-morbidities. Risk stratifying studies have previously identified several non-cardiac co-morbidities as risk factors for mortality; however, there was no specific focus on non-ICD indication-related co-morbidities in the studies, most patients were enrolled in early years (1997–2008), and none of the studies included information on appropriate ICD therapy, making comparisons with our results challenging.[27]

Interestingly, we found that, with increasing co-morbidity burden, there was an increasing frequency of patients who never experienced appropriate ICD therapy prior to death, with 72% of primary and 45% of secondary prevention patients with a high co-morbidity burden who never had any appropriate utilization of their ICD device prior to death. Correspondingly, we found no association between increasing co-morbidity burden and increasing risk of appropriate therapy. There was even a hint that primary prevention patients with a high co-morbidity burden had a lower utilization of their device, possibly due to the high mortality observed in these patients. This raises the question of whether patients with a high co-morbidity burden gain benefit from ICD implantation, or if the mortality risk for competing causes is so high that these patients do not live long enough for the device to exert its benefit. In this study, 72% of primary prevention patients with high co-morbidity burden, who could have utilized their device, never had any appropriate ICD therapy prior to death. However, when looking at the total population, 11% of primary prevention

patients with a high co-morbidity burden had an appropriate therapy during follow-up. Therefore, the question that remains relates to the definition of ICD benefit. How many patients do we need to treat in order to justify implantation of a primary prevention ICD? This is a tough question to answer, and the current study is unfortunately not equipped to do so. In a recently published analysis, study populations from several large randomized trials on primary prevention ICD implantation were combined in order to assess the benefit of ICD implantation in patients with multiple co-morbidities.[23] The investigators found that, although attenuated, patients with high co-morbidity burden still derived benefit from ICD implantation. However, certain aspects of this study are questionable from the current clinical point of view. In the randomized trials, patients were excluded if they presented with severe co-morbidities, and therefore the results cannot be uncritically extrapolated to 'real-life' ICD patients. This is also evident when comparing the 4-year mortality rates in patients with ≥2 co-morbidities between their study, which reported 25% mortality risk, and our study with a mortality risk of >36%.[23] Secondly, patients in the randomized trials were enrolled in earlier years as compared with the patients from the DPIR. Major advancements in medical therapy, on both a pharmacological and interventional level, have occurred over time, and therefore these patients are not representative of the current primary prevention ICD population, making it difficult to extrapolate the results.

Chan *et al.* investigated the benefit of ICD implantation in the setting of multiple co-morbidities, and found ICD implantation to be associated with reduced mortality risk irrespective of co-existing co-morbidities.[28] However, with increasing co-morbidity burden, the benefit of ICD was attenuated and, even though the interaction *P*-value was insignificant between the co-morbidity burden groups, the authors were not able to show a significant benefit of ICD implantation in patients with multiple co-morbidities. These findings suggest that the benefit of ICD implantation might be outweighed by the competing mortality risk associated with these co-morbidities, further stressing the importance of careful and individual assessment prior to deciding on ICD implantation.

From previous studies, we know that complication rates are significantly higher in patients with multiple or severe co-morbidities, with reported complication rates up to 21%.[23,29,30] Therefore, in primary prevention patients with high co-morbidity burden, clinicians need to exert vigilance and conduct thorough individual assessments of whether the benefits outweigh the risks of implantation. In secondary prevention patients who have survived a cardiac arrest, an ICD is generally indicated, as we know that these patients have a high risk of SCD, and higher utilization of their ICD device, as compared with primary prevention patients. However, it is interesting to observe the >50% 4-year mortality risk in secondary prevention patients with a high co-morbidity burden, and that 45% of those patients who potentially could have used their device die without utilizing their device, suggesting a high mortality for competing causes.

The results from this study pose some interesting questions regarding utilization of ICD devices in patients with multiple co-morbidities. However, it must be stressed that this is a retrospective study without a control population, and therefore we are not able to draw conclusions regarding the clinical benefit of ICD implantation in the setting of multiple co-morbidities. Additional larger studies with a control population are needed to investigate this aspect further. Nevertheless, our results emphasize the importance of thorough evaluation of the risks and benefits on an individual level prior to primary prevention ICD implantation in patients with multiple co-morbidities.

Limitations

The results from the current study are based on prospectively collected data from registers, and can therefore only be conceived as hypothesis generating. Furthermore, we cannot eliminate the possibility of unmeasured confounders. Given the lack of a control population, we are unable to draw conclusions regarding ICD efficacy. The risk of underestimation of ICD therapy due to under-reporting remains, as does the risk of misinterpretation of appropriate ICD therapies. However, we believe this risk to be very low. If an ICD therapy occurred, the treating pacemaker technician or electrophysiologist interrogated the device, and classified the ICD therapy as appropriate or inappropriate according to the underlying rhythm. In cases of doubt, an electrophysiologist was consulted. In addition, we attempted to validate the accuracy of ICD therapy registration in the DPIR. However, when comparing the registration in the DPIR with information from patient charts, we found that in all cases, ICD therapy was better registered in the DPIR than in patient charts, making proper validation difficult. Unfortunately device programming, including VT/VF zones with detection limits, and delays are not reported in the DPIR. Therefore, we are regrettably not able to provide or take this information into account.

The Danish National Patient Register's main function is as an administrative register, through which all hospital reimbursement for patient admissions are controlled. The accuracy is vital for hospital and departmental economics. Co-morbidities were identified from discharge diagnosis codes in the Danish National Patient Register (Supplementary material online, *Table S1*). Previous studies have reported a high positive predictive value for most diagnoses utilized in the current study.[14] In addition, the definition of diabetes, heart failure, and COPD incorporated use of relevant medication, in order to ensure the highest possible accuracy. Therefore, we believe the risk of under- and/or misreporting to be very low.

Conclusion

In Denmark, patients selected for primary prevention ICD implantation are becoming older with a higher co-morbidity burden, although the absolute frequency of both primary and secondary prevention patients with ≥3 co-morbidities remains fairly low (7%). Increasing co-morbidity burden was not associated with increasing risk of appropriate ICD therapy in either primary or secondary prevention patients, although it was associated with

increasing mortality risk, with a 4-year mortality rate of >50% in patients with multiple co-morbidities, irrespective of implant indication. Furthermore, with increasing co-morbidity burden, a higher frequency of patients died without ever having utilized their device, suggesting that the competing risk of non-SCD is high.

Supplementary Information

Additional Supporting Information may be found in the online version of this article:

Table S1. ICD codes, procedure codes, and ATC codes for defining co-morbidities.

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Authors' contributions: All analysis were conducted by the primary and corresponding author A.C.R. G.H.G. and C.J. had full access to all data and take responsibility for the integrity of the data and the accuracy of the data analysis.

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